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08/770,792 12/19/96 KOYAMA

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020985 MM91/0404
FISH & RICHARDSON, PC
4350 LA JOLLA VILLAGE DRIVE
SUITE 500
SAN DIEGO CA 92122

EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

| | | |
|------------------------------|---------------------------------------|-------------------------------------|
| Office Action Summary | Application No. 08/770,792 | Applicant(s) Koyama et al |
| | Examiner Julie-Huyen L. Ngo | Group Art Unit 2871 |

Responsive to communication(s) filed on _____.

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

Claim(s) 2, 4-6, 10, 12-14, 17, 21-56, and 61-72 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 2, 4-6, 10, 12-14, 17, 21-56, and 61-72 is/are rejected.

Claim(s) _____ is/are objected to.

Claims _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The proposed drawing correction, filed on _____ is approved disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Specification

The disclosure is objected to because of the following problems: ✓

- the same reference character "501" has been used to designate both the *short ring* in page 2 and the *counter substrate* in page 3
- the same reference character "502" has been used to designate both the *pixel TFTs* and the *sealant material* on lines 1 and 19 of page 3, respectively.

Appropriate correction is required.

The amendment filed January 24 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

According to the *only* embodiment (figure 9 and specification pages 9-11) which includes a control circuit (recited in the claims), it appears that the bus line (907) provided over the TFT substrate (905) do not *have a part located adjacent to the side edge* of the TFT substrate, whereas it is bonded by the nonconductive or weakly conductive material. Therefore, the limitations amended in claims 17, 21-25 and 65-68 constitute new matter. ✓

Applicant is required to cancel the new matter in a reply to this Office action.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "501" has been used to designate both the short ring in figure 5 and the counter substrate in figure 6. A similar problem exists with the reference character "502" in figures 5 and 6. ✓

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention as specified in the claims. Therefore, the driver TFTs formed over the TFTs substrate as recited in the claims, e.g. claims 17, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. ✓

Appropriate correction is required.

Claims 2, 4-6, 10, 12-14, 17, 21-56 and 65-68 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The subject matter amended to claims 17, 21-25 and 65-68 introduces new matters which were not described in the disclosure as originally filed.

Claims not specifically discussed above are rejected by reason of their dependence on the rejected claim(s).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 61-64 and 69-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted Prior Art (APA) in view of Hinata et al (U.S. 5,610,742).

Applicant discloses (p. 2, lines 14-23, Figs 2-6) a conventional active matrix liquid crystal display comprising all the elements recited in claims ~~2, 4-6, 10, 12-14, 17 and 21-56~~ ^{61-64 and 69-72} exclusive of

_ a non-conductive or weakly conductive material applied to the side edge of the TFT substrate (505), the side edge of the counter substrate (501) and the part of the bus line (504)

_ wherein non-conductive or weakly conductive material is provided on an outer side of a sealing material (502)

Hinata et al. teach, in the abstract and figures 1-5, sealing the side edges of the liquid crystal display's substrates with an epoxy adhesive or flexible gas barrier films (13), which is provided on the outer side of the seal material (5), to decrease poor display performance caused by bubble formation.

Therefore, it would have been obvious to apply flexible gas barrier films or a nonconductive film (13) to the outside of the sealant material (502) and to the side edges of the substrates (501, 505) and the side edge/part of the bus line (504) in the APA device to decrease

poor display performance, as taught by Hinata et al.

Claims 2, 4-6, 10, 12-14, 17, 21-56 and 65-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawatsubashi et al. (U.S. 5,148,301) in view of Hinata et al (U.S. 5,610,742).

Since the method claims are just the steps of forming the elements of the device, the method claims would have been obvious in view of the device. Therefore, the method claims are treated below with the corresponding device claims.

Sawatsubashi et al. disclose (Cols. 4-6 and Figures 3-5) an active matrix liquid crystal display comprising:

a plurality of pixel TFTs (104) arranged in rows and columns over a TFT substrate (101) and arrayed in a matrix;

driver TFTs formed over said TFT substrate and forming a driver circuit (112/113) for driving said pixel TFTs;

a layer of a liquid crystal material (109) with which said pixel TFTs and driver TFTs are in contact directly or via a thin film (106);

a counter substrate (102) located opposite to said TFT substrate;

a sealing material (108) provided between said TFT substrate (101) and said counter substrate (102) and inside a side edge of said counter substrate and a side edge of said TFT substrate, said sealing material (108) being provided outside at least said pixel TFTs (104) and driver TFTs; and

a control circuit (112a/112b or 113a/113b) provided under and in contact with said sealing material (108) for controlling said driver circuit.

Sawatsubashi et al. disclose an active matrix liquid crystal display comprising all elements recited in claims 2, 4-6, 10, 12-14, 17, 21-56 and 65-68 except for a non-conductive or weakly conductive material applied to the side edge of the TFT substrate (101), the side edges of the substrates (102) and the side edge of the bus line (Gm/Dn).

Hinata et al. teach (abstract and related description of figures 1-5), sealing the side edges of the liquid crystal display's substrates with an epoxy adhesive or flexible gas barrier films (13),

which is provided on the outer side of the seal material (5), to decrease poor display performance caused by bubble formation.

Therefore, it would have been obvious to one of ordinary skill in the art to apply a flexible gas barrier film or a nonconductive film (13) to the side edges of the substrates, as taught by Hinata et al., in the active matrix liquid crystal display of Sawatsubashi et al. for reducing poor display performance.

Furthermore, since the side edge of the bus line is aligned and inside the TFT substrate, it would have been obvious to one of ordinary skill in the art to apply a flexible gas barrier film or a nonconductive film (13) to the side edge of the bus line as well, as taught by Hinata et al., in the active matrix liquid crystal display of Sawatsubashi et al. for reducing poor display performance.

Accordingly, claims 2, 4-6, 10, 12-14, 17, 21-56 and 65-68 would have been obvious over Sawatsubashi et al. device as modified by Hinata et al.

Response to Arguments

Applicant's arguments filed January 24, 2001 have been fully considered but they are not persuasive.

Applicant argues that none of the cited art teaches or suggests the structure of the invention and Sawatsubashi et al. does not teach any use of a non-conductive or weakly conductive material.

Sawatsubashi et al. reference is applied above to show the structure which meets the recitation for the structure of the invention except for the non-conductive or weakly conductive material. Therefore, Sawatsubashi et al. would not have suggested any use of a non-conductive or weakly conductive material.

However, Hinata et al. teaching has been applied above to seal the substrates's side edges of the Sawatsubashi et al display with an epoxy adhesive or flexible gas barrier films (13), which is the *non-conductive or weakly conductive material*, to decrease poor display performance caused by bubble formation. Therefore, the structure of the invention has been met by the device of Sawatsubashi et al. as modified by Hinata et al teaching.

Applicant argues that Hinata et al never suggests using a pixel TFT.

the Sawatsubashi et al display with an epoxy adhesive or flexible gas barrier films (13), which is the *non-conductive or weakly conductive material*. Therefore, there is no need to have any suggestion in Hinata et al. for a pixel TFT since Sawatsubashi et al display already included the pixel TFTs.

Applicant argues that neither Hinata et al. nor Sawatsubashi et al suggest protecting pixel TFTs against static charge.

The fact that applicant has recognized another advantage/result which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). However, it is noted that this recitation upon which applicant relies is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, even if such recitation has been recited in the claims, the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. Since the prior art structure is capable of performing the intended use, then it meets the claim.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Ngo, whose telephone number is (703) 305-3508.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose, telephone number is (703) 308-0956.

Papers related to this application may be submitted to Art Unit 2871 by facsimile transmission. The Art Unit fax number is (703) 308-7721.

JHLN
March 31, 2001

William L. Sikes
William L. Sikes
Supervisory Patent Examiner
Group 2871